Target Math
Class 5
Term 1

1. Roman numerals	p # 1-5 (from Book Get Ahead 5)
2. Notation and place value	p #001, 002, 003(from target)
(8 digit numbers in Pakistani and International way)	
3. Addition	p #004(from target)
4. Subtraction	p #005(from target)
5. Multiplication	p #006(from target)
6. Division	p #007, 008(from target)
7. Simplification	p #009, 0010, 0011(from target)
8. Divisibility	p # 6-13 (from Book Get Ahead 5)
	p #0012(from target)
9. Factors	p #0013(from target)
	p # 14-21 (from Book Get Ahead 5)
9. Multiples	p # 22 -23(from Book Get Ahead 5)
Multiples	p #0014(from target)
10. Common Multiples	p # 24(from Book Get Ahead 5)
Common Multiples	p #0014(from target)
11. Prime and Composite numbers	p # 25-27(from Book Get Ahead 5)

Write first ten multiples of 14, 8, 6, 15, 9, 7.

Write first ten multiples of these pairs of numbers and find their common multiples.

1. 6 and 4
2. 12 and 18
3. 10 and 5
4. 12 and 8

Thinking even b-i-g-g-e-r: 8-digit numbers

What happens when we add 1 more to 9999999 (the biggest 7-digit number)?

On our Pakistani place-value chart, something very special happens: we run out of lacs, and need to add a new house or period: the House of Crores.

Crores		Lacs		Thousands		Units		
TC	C	T L	L	T Th	Th	H	T	U
		9	9	9	9	9	9	9
								1
	1	0	0	0	0	0	0	0

'C' means 'crores' and 'TC' (the next column to the left) means 'ten crores'—a giant-sized number with 9 digits!

One crore is the smallest 8-digit number in the Pakistani place-value system.

When we listen to the news on the radio, or watch TV programmes about Pakistan's economy or read newspaper articles, we will often meet this word.

It helps us to think in terms of very large numbers.

If one crore people come to hear the Prime Minister speak, he or she will be very happy indeed!

A Write the number names:

8,00,00,000 eight crore

1. 4,00,00,000
2. 6,00,00,000
3. 2,00,00,000
4. 5,00,00,000
5. 9,00,00,000

B Write the number:

1. three crore 3,00,00,000
2. eight crore
3. one crore
4. seven crore
5. two crore
6. nine crore

C The following list gives the total number of votes won in seven constituencies in Pakistan. Place each number in Pakistani periods. Which constituency has the largest number of voters?

Constituency A: 386219 3,86,219

Constituency B: 208678

Constituency C: [illegible]

Constituency D: 271200

Constituency E: 29475?

Constituency F: 269802

Constituency G: ?25389

P#001

Here is another 8-digit number placed in Pakistani periods:

[illegible]

Its number name is five crore, twelve lac, sixty-four thousand, eight hundred and twenty-one.

A Place these numbers in Pakistani periods and write their names:

4,06,85,012 four crore six lac, eighty-five thousand and twelve

67300159
30846002
73052814
11221120
58964371

B Write the numbers, placing your commas carefully:

five crore, one lac, twenty thousand and sixteen
5,01,20,016

1 three crore, eleven lac, forty-two thousand, three hundred

2 eight crore, thirty lac, nineteen thousand, four hundred and sixty-one

3 four crore, eighty-six lac, fifty thousand and ninety-two

4 six crore, forty-nine thousand, seven hundred and three

5 seven crore, three hundred and fifty-six

C Write the value of the ringed digit:

4,10,62,938

6,03,18,461
8,15,67,032
5,00,92,475
4,73,85,693
9,84,32,777
1,16,00,584

D Write in expanded form:

5,26,49,032 5,00,00,000 + 20,00,000 + 6,00,000 + 40,000 + 9,000 + 30 + 2

1 6,18,30,596
2 7,05,12,847
3 1,10,95,738
4 4,00,67,143
5 5,94,03,075

One crore equals ten million

In Pakistan and throughout South Asia, the smallest 8-digit number is known as one and is written 1,00,00,000.

But if we use the word 'crore' in most other parts of the world, nobody will understand what we mean!

On our international place-value chart, the smallest 8-digit number is called ten million and is shown like this:

Millions		Thousands			Units		
	M	HTh	T Th	Th	H	T	U
1	0	0	0	0	0	0	0

A Write the number names:

46,030,100 forty-six million thirty thousand, one hundred

1 38,100,580
2 51,069,120
3. 19,405,328
4 72,617,134
5 60,174,005

B Place these in periods, first in the Pakistani way, second in the international way:

40396425

38106259

12450031

41965478

73812096

26794502

C Write the numbers, placing your commas carefully

eighteen million four thousand and twenty-seven 18,004,027

1. thirty-one million five hundred and ten thousand six hundred and three

2. forty-nine million one hundred and three thousand five hundred and eighty-two

3. seventy-eight million four hundred thousand eight hundred and twelve

4. twenty million six hundred and thirty-seven thousand five hundred and fifty-five

5. eighty-eight million and fifteen

P # 003

Adding very big numbers with 7 or 8 digits is simple, provided we are careful to write our columns neatly and carefully, and to work from the

```
    1   1 1    1
    2 4 5,6 1 3 8
  + 4,6 0 5,9 5 2
    -------------
    7,0 6 2,0 9 0
```

When we finish adding we must also remember to put in our periods.

A Copy and complete:

1.
```
   1,984,623
 + 2,015,346
```

2.
```
   14,07,156
 - [illegible]
```

3.
```
   3,407,862
 - 1,374,109
```

4.
```
   24,67,333
 + 18,05,436
```

5.
```
   37,91,604
 - [illegible]
```

6.
```
   23,569,231
 +  5,694,325
```

7.
```
   4,468,571
 - 2,365,149
```

8.
```
   15,650,192
 + 73,02[illegible]
```

9.
```
   3,49,35,117
 + 1,05,62,431
```

10.
```
   8,27,54,380
 + 1,05,[illegible]
```

B Write in vertical form and complete (be careful with your columns!):

1. 3,564,121 + 2,473,565
2. 82,14,960 – 12,28,340
3. 4,693,775 + 5,184,962
4. 16,49,827 + 49,16,782
5. 2,655,132 + 2,984 + 34,103
6. 1,030,499 + 38,324 + 5,687
7. 39,862 + 410,364 + 2,003,145
8. 465 + 2,49,00,321 + 1,092
9. 5,62,43,018 + 32 + 51,673
10. 84,65,321 + 7,495 + 1,18,626

P # 004

Using big numbers: subtraction

[redacted] numbers, we're always careful with our columns.

	2 6, 4 9 7, 2 6 4
−	1 3, 9 4 2, 0 9 6
	1 2, 5 5 5, 1 6 8

A Copy and complete:

1. 1,496,953 − 205,343
2. 4,875,648 − 1,232,537
3. 28,64,932 − 14,18,725
4. 51,95,438 − 38,41,654
5. 6,032,159 − 3,470,538
6. 45,647,329 − 14,538,142
7. 1,64,00,825 − 79,36,172
8. 50,100,032 − 28,052,164
9. 2,70,03,029 − 1,08,16,420
10. 30,000,000 − 15,457,628

B : Write in vertical form and complete:

1. 85,231,569 − 16,829,293
2. 98,486,243 − 72,639,958
3. 2,00,00,360 − 38 745
4. 4,16,05,152 − 1,78,34,018
5. 45,003,620 − 37,598,192
6. 3,175,002 − 698,435
7. 5,62,41,650 − 2,18,64,137
8. 4,000,351 − 25,689
9. 32,034,629 − 1,465,117
10. 8,60,03,814 − 65,17,298

P # 005

... work with bigger numbers: multiplication

... volving very big multiplicands, we must be careful and accurate at every step: ...

5,983	
× 475	
29,915	(5983 x 5)
418,810	(5983 x 70)
2,393,200	(5983 x 400)
2,841,925	

A Copy and complete:

1. 864 × [illegible]

2. 64[illegible] × [illegible]

3. 495 × 834

4. [illegible] × 540

5. 2,405 × 321

B Write in vertical form and complete:

1. 3, 847 x 431 3 9
2. 9, 525 x [illegible] 8 6
3. [illegible] x [illegible] 4 2
4. 7,346 x 398 7 5
5. 5,174 x 872 x x
6. 10,1[illegible] x [illegible] 4 8
7. 11,627 x 19[illegible] 3 5
8. 14,085 x 25[illegible] 1 5
9. [illegible] 166 x 18[illegible]
10. 18,967 x 232

Wo...g with ve.. big d...dends is simple, provided we go carefully step by step:

Our example: 8..,934 ÷ 56

How many 56s in 82? Only 1

How many 56s in 266? We guess 4: 56 x 4 = 224

How many 56s in 429? We guess 7: 56 x 7 = 392

How many 56s in 373? We guess 6: 56 x 6 = 336

```
       14,766 r 38
56 ) 826,934
     56
     266
     224
      429
      392
       373
       336
        374
        336
Remainder = 38
```

Our answer = 14,766 r 38

A C... and complete, working very carefully:

1. 2.) 32,497
2. 24) 18,726
3. 31) 49,608
4. 25) 51,972
5. 44) 68,795

B W... ... long division form a... complete:

1. 6,295 ÷ 31
2. 8,706 ÷ 95
3. 14,038 ÷ 87
4. 28,653 ÷ 64
5. 35,764 ÷ 59

C Copy and complete, working as carefully as you can:

1. 248) 32,561
2. 330) 45,695
3. 187) 29,364
4. 485) 50,678
5. 643) 72,996

P #007

Division: 3-digit divisors

We know very well how to work with 2-digit divisors [illegible]

We follow exactly the same steps when we work with 3-digit divisors (or even bigger ones):

Our example: 483,759 ÷ 381

How many 381s in 483? Easy: 1!

How many 381s in 1027? Our guess: 3
~~381 x 3 = 1143~~
381 x 2 = 762

How many 381s in 2655? Guess: 7
We guess 7:
~~381 x 7 = 2667~~
381 x 6 = 2286

How many 381s in 3699? Guess: 9
381 x 9 = 3429

Our answer = 1,269 r 270

```
          1269 r 270
381 ) 483,759
      381
      1027
       762
      2655
      2286
       3699
       3429
      r = 270
```

B Write in long division form and complete:

1. 46,028 ÷ 384
2. 52,169 ÷ 416
3. 75,673 ÷ 549
4. 34,396 ÷ 457
5. 28,932 ÷ 535
6. 15,721 ÷ 464
7. 56,439 ÷ 719
8. 49,868 ÷ 637
9. 304,236 ÷ 24?
10. 561,324 ÷ 446

The four operations: ordering (simplification)

We now know how to **add, subtract, multiply** and **divide** using very big numbers.

But so far we've been doing each of our **four operations** separately:

For example:

$$\begin{array}{r} 146{,}329 \\ +\ \ 84{,}651 \\ \hline 230{,}980 \end{array}$$

or 384 x 100 = 38,400

Sometimes, however, we need to do two or more of our four operations to solve a sum.

Look at this example:

9 – 6 ÷ 3 x 2 + 1 = ?

We need all four of our operations to solve this sum.

But in what order should we do them?

Let's see what happens when we solve the sum in 3 different ways:

1. [illegible] first	9 – 6 = 3
2. We next divide:	3 ÷ 3 = 1
3. We multiply	1 x 2 = 2
4. Last we add	2 + 1 = 3
	[illegible]

Solu[illegible]	
1 We add	2 + 1 = 3
2 We multiply:	3 x 3 = 9
3 We divide	$6 \div 9 = \frac{6}{9} = \frac{2}{3}$
4 Last we subtract:	$9 - \frac{2}{3} = 8\frac{1}{3}$
	[illegible]

[illegible]ution 3	
1. We divide:	6 ÷ 3 = 2
2. We multiply:	2 x 2 = 4
3. We subtract:	9 – 4 = 5
4 We add:	5 + 1 = 6
	Answer = 6

[illegible] we got three different answers! [illegible] how important it is to do our four operations [illegible] correct order [illegible] custom or [illegible] do our four operations in this order:

[illegible] Division first

2 Multiplication second

[illegible] Addition third

[illegible] Subtraction last

[illegible]

Because this rule or convention makes it simpler for us to solve sums involving more than one operation, we call it the simplification rule [illegible]

A Using the simplification rule, DMAS solve these sums:

* 9 + 3 x 4 (multiply before adding)

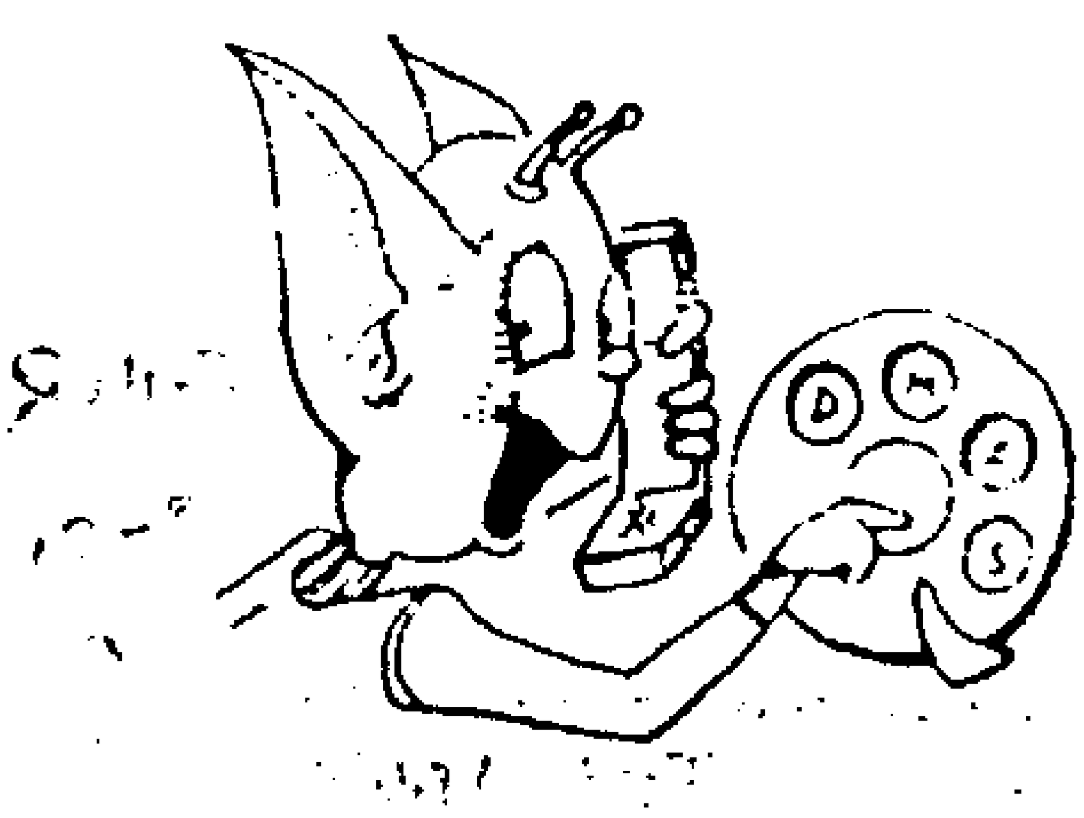
[illegible] = 12

(add next)

[illegible] = 21

Answer = 21

1. 6 + 4 – 3
2. 6 x 5 – 5
3. 11 + 2 x 8
4. 30 + 6 ÷ 3
5. 8 ÷ 2 + 12
6. 10 – 3 – 3
7. 12 ÷ 4 x 5
8. 16 + 8 ÷ 2



P # 009

Simplification

A Now simplify these, using your DMAS rule:

★ 16 – 8 + 4 (divide first)
8 ÷ 4 = 2

1. 12 x 6 ÷ 3
2. 84 – 7 x 10
3. 14 + 21 ÷ 3
4. 58 – 24 ÷ 8
5. 70 – 8 + 2
6. 15 x 42 ÷ 14
7. 108 ÷ 12 + 46
8. 20 – 16 ÷ 4
9. 17 + 5 x 20
10. 81 – 4 x 14

We follow the same DMAS rule when we work with 3 different operations:

example:

From our DMAS rule, we know we should multiply first:

What we do	Our sum becomes
1. We multiply 2 x 4 = 8	6 + 8 – 8
2. We add 6 + 8 = 14	14 – 8
3. We subtract 14 – 8 = 6	14 – 8 = 6
Answer: 6 + 2 x 4 – 8 = 6	

B Now simplify these:

1. 3 x 2 + 8 – 5
2. 128 ÷ 4 + 12 x 5
3. 6 x 5 + 12 ÷ 4
4. 12 x 4 + 6 ÷ 2
5. 25 ÷ 5 + 4 x 3
6. 18 x 6 ÷ 2 – 24

C Remember your DMAS rule and simplify these:

1. 7 + 6 ÷ 2 x 16
2. 5 x 15 ÷ 3 – 49
3. 121 ÷ 11 + 5 x 20
4. 16 + 9 – 3 x 2
5. 8 x 14 ÷ 7 – 10
6. 25 + 35 ÷ 7 x 12
7. 84 ÷ 12 x 3 – 6
8. 48 x 3 – 102 + 14

Let's now try a sum involving all four operations:

example: 12 x 4 + 6 ÷ 2 – 11

What we do	Our sum becomes
1. We divide 6 ÷ 2 = 3	12 x 4 + 3 – 11
2. We multiply 12 x 4 = 48	48 + 3 – 11
3. We add 48 + 3 = 51	51 – 11
4. We subtract 51 – 11 = 40	51 – 11 = 40
Answer: 12 x 4 + 6 ÷ 2 – 11 = 40	

D Think carefully, then simplify

1. 18 + 4 x 6 ÷ 2 – 3
2. 25 ÷ 5 x 3 + 6 – 12
3. 3 x 12 ÷ 6 + 20 – 5
4. 31 + 24 ÷ 8 x 9 – 39
5. 45 ÷ 5 + 7 x 11 – 20
6. 9 x 12 + 18 ÷ 6 – 16
7. 14 + 28 ÷ 7 x 3 – 17
8. 7 x 50 + 32 ÷ 8 – 121

So far, we've used brackets in sums involving only two operations, for example, addition and subtraction, subtraction and multiplication.

But they are also very helpful in more complex sums with three or even four operations.

To help us decide the order in which to do the operations, we use three different types of brackets:

1. The [illegible] : ( )
2. The [illegible] brackets : { } and
3. The square bracket : [ ]

If we find all three types of brackets used in a sum, we simplify in this order:

1. The part of the sum in [illegible]
2. The part in [illegible] and [illegible]
3. The part in [illegible] last.

For example, look at this sum:

$$60 - [48 - \{16 + (8 - 4)\}]$$

All three types of bracket are used.

We [illegible] tackle the part in round brackets:

$$(8 - 4) = 4$$

[illegible] we simplify the part in double brackets

$$\{16 + 4\} = 20$$

[illegible] the square brackets part:

$$[48 - 20] = 28$$

[illegible] complete our simplification:

$$60 - 28 = 32$$

A Working carefully, copy and simplify these sums:

$4 + [15 - \{7 + (6 \div 2)\}]$

$6 \div 2 = 3$ (round brackets)

[illegible]

$4 + 5 = 9$

[illegible]

$24 - [5 + \{8 - (9 - 6)\}]$

$2 \times [18 - \{6 + (9 \div 3)\}]$

$\{30 - (16 + 8)\} \times 12$

$[100 - \{80 + (20 \times 2)\}] + 3$

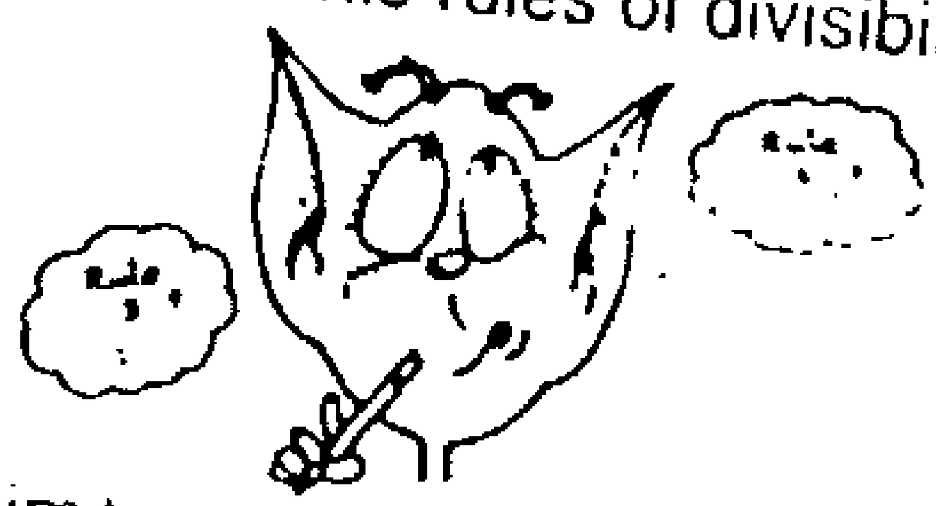
$80 + [10 \times \{16 - (8 \div 2)\}]$

6 $\{45 + (83 \times 3)\} - 16$

... ...ility

... ...ter 4, we learnt ... very useful ... of divisibility. They helped us find out ... ...ly and easily, which factors make up a number (in other words, by what numbers it can be divided with no remainder).

A Sid Spacewalker is trying to remember his rules of divisibility:



Help him to do so by filling in the blanks:

Any number with 5 or 0 in the ___ column is divisible by 5.

Any ___ number must be divisible by 2.

A number whose digits add up to a multiple of 3 is divisible by ___.

All numbers which are divisible by 9 have digits that add up to a multiple of ___.

An example of a number which is divisible by 5 and by 10 is ___.

B Which of these numbers is divisible by 3?

1. 149
2. 306
3. 5,481
4. 6,073
5. 82,602
6. 19,400

C Which of these numbers is divisible by 5?

1. 6,... ...2
2. 49,16,495
3. 7,155,534
4. 17,03,760

D Write down six 7-digit numbers which are divisible by 9.

... (an easy one!)

Look at these multiples of 10:

100, 17,100, 300,640, 7,032,790

They all have a 0 in the units ...

★ Any number ... ... divisible by 10.

E Tick the numbers which are divisible by 10:

1. 4,960
2. 3,701
3. 11,000
4. 720,395
5. 11,624,340
6. 75,06,248

Test 6 ...

Let's take the number 584, and look at the **tens** and **units** digits:

5 ...

Can 84 (the number formed by the tens and units) be divided by 4?

Yes, it can : 84 ÷ 4 = 21

This tells us that 584, too, is divisible by 4.

We can divide to check:

$$\begin{array}{r} 146 \\ 4\,\overline{)584} \\ 4 \\ \hline 18 \\ 16 \\ \hline 24 \\ 24 \\ \hline \end{array}$$

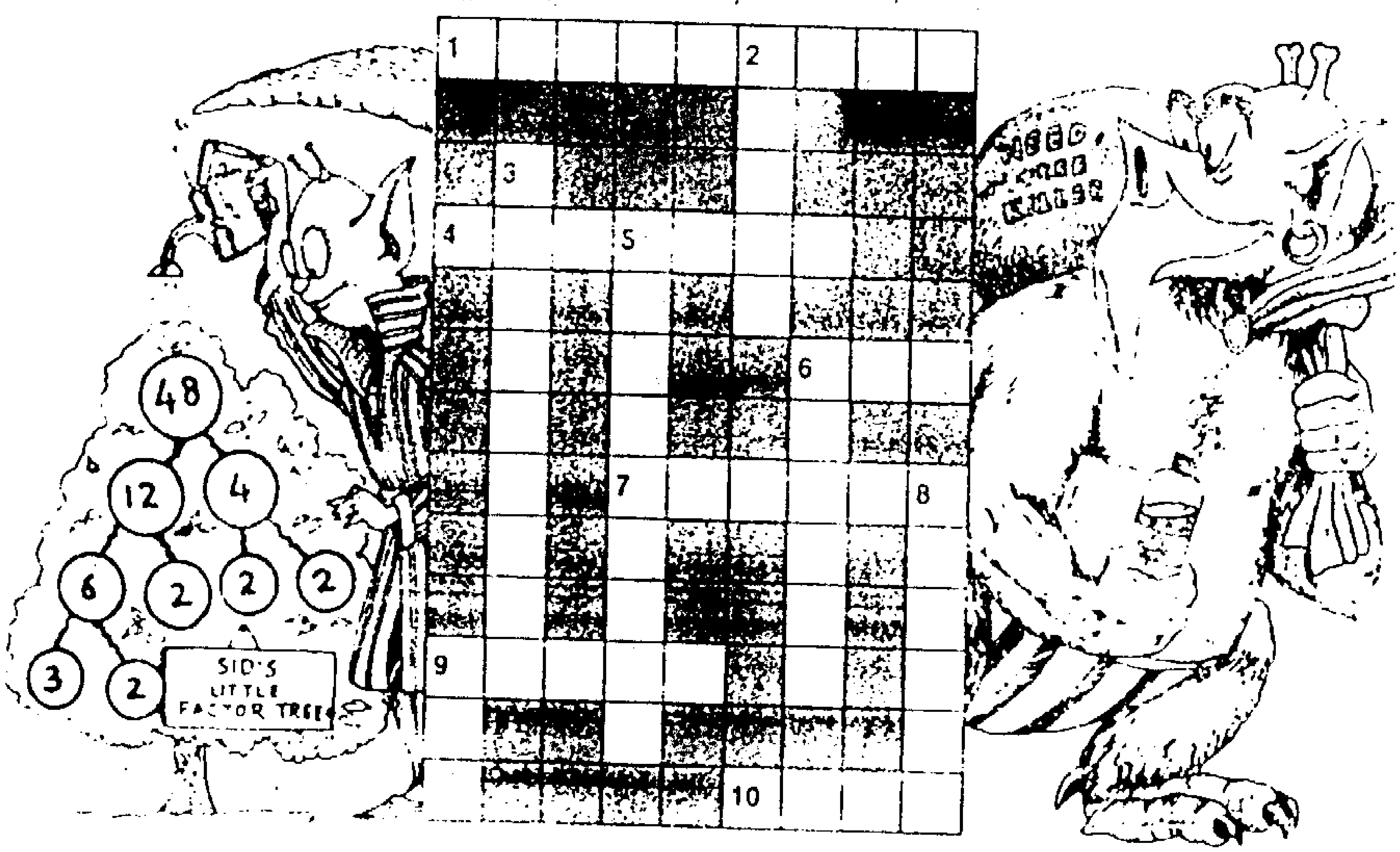
584 ÷ 4 = 146 r 0

★ A number is ... formed by the tens a... ... divisible by 4.

F Which of these is divisible by 4?

1. 629
2. 3,436
3. 6,565
4. 17,504
5. 23,656
6. 1,17,305
7. 260,072
8. 3,645,064

P#0012



4, 6, 8, 10 and 12 are a multiple of the number 2.

Two numbers which have only 1 as their common factor are called ______ numbers.

All even numbers are multiples of this number. 2

Every number is a factor of ______

On a number line 1-10 the next greatest prime number after five is ______.

The number eight has a total of [illegible] factors.

A number with only two different factors (itself and 1) is called a Prime number.

Composite numbers have more than two different factors.

A multiple is a number which can be [illegible]

any ______.

The LCM of 4 and 6 is 12

Number 1 is a Factor of every number.

12, 48, 18 and 30 are all multiples of the number 3

P#0013